

Elwood Reservoir

2011 Fall Survey Summary

Jared Lorensen, Fisheries Biologist



Elwood Reservoir is utilized by Central Nebraska Irrigation & Public Power District for regulation of irrigation water. During the spring of 2010 Elwood was filled to conservation pool for the first time since 2004. This flooded 500-600 acres of terrestrial vegetation and it is expected to refill again in 2012. Track water elevation changes at http://www.cnppid.com/Elevation_Flows2.htm.

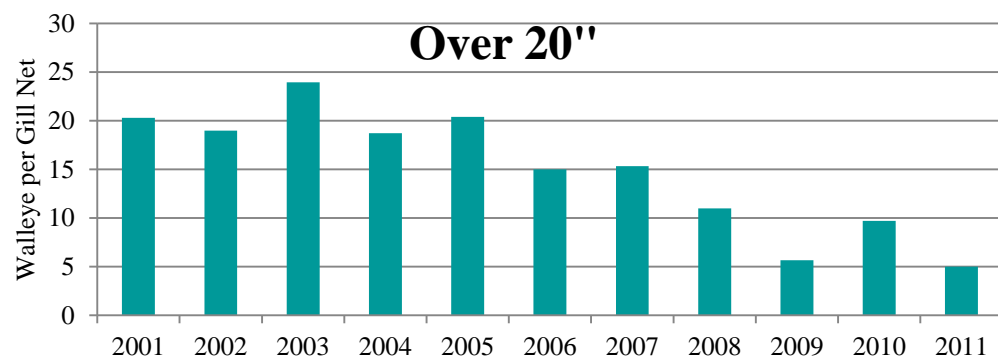
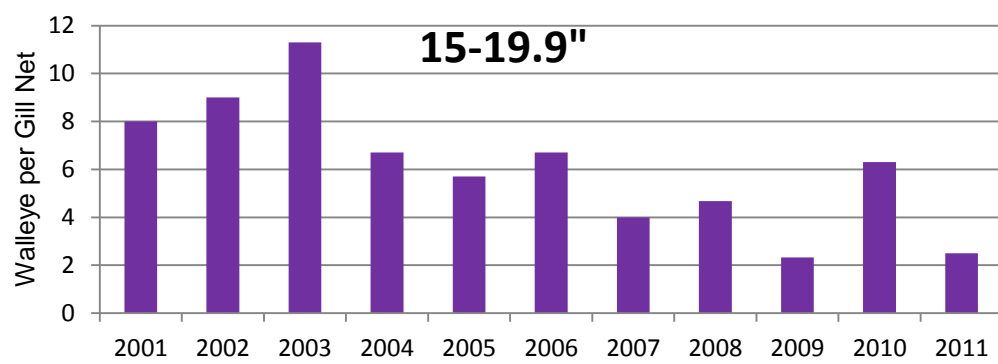
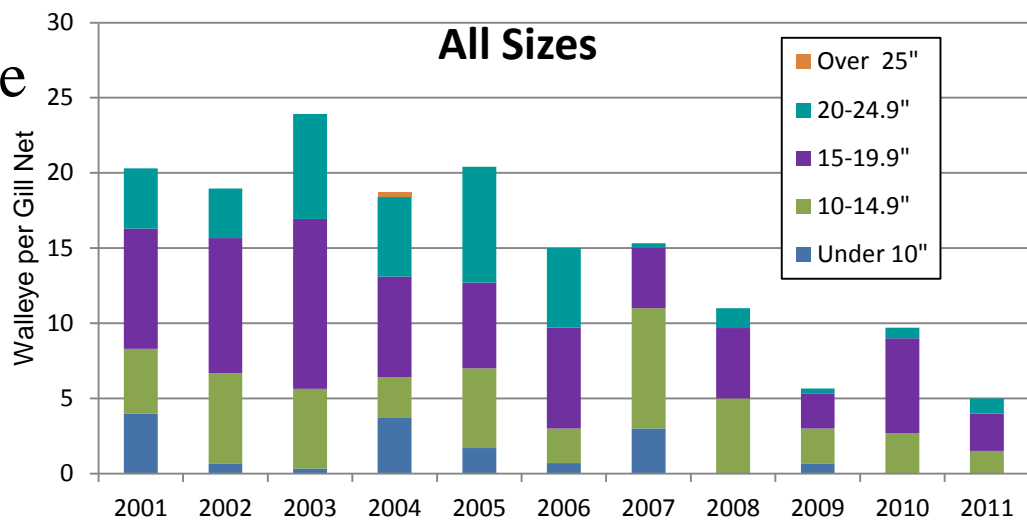
Inundated terrestrial vegetation is excellent habitat for many species and provides crucial habitat for young-of-year fish and spawning substrate for species like northern pike. Many species (northern pike, largemouth bass and panfish) have responded positively to this occurrence and stocking strategies have been altered to provide species that typically thrive in these habitats. Prior to this rejuvenation of water level many populations (walleye) were depleted but funding by NGPC and the Tri-Basin Natural Resources District (NRD) allowed partial fills annually to prevent major fish kills. The full benefit of the recently improved water levels will be enjoyed for several years to come.

The fishery of Elwood Reservoir is sampled every fall using experimental gill nets, a method commonly used to sample species found primarily in open water. These nets are made of clear monofilament mesh strung between a weighted line and a floating line. This mesh ranges in size from $\frac{3}{4}$ of an inch to 3 inches and the nets are typically set perpendicular to the shoreline in 6 to 12 feet of depth during late afternoon with an orange floating buoy on the ends to deter boats from being entangled and for ease of retrieval. Gill nets create an invisible wall in the water column that fish cannot sense so they are entangled by their gills as they attempt to move through this mesh.

Data collected from these surveys allow biologists to evaluate the population density, size structure, and growth rates for several species. This data provides valuable information to guide decision making scenarios that include fish species stocked, stocking rates and fishing regulations. This information also assists Game and Parks staff in guiding anglers to waterbodies that have the desired populations for fishing.



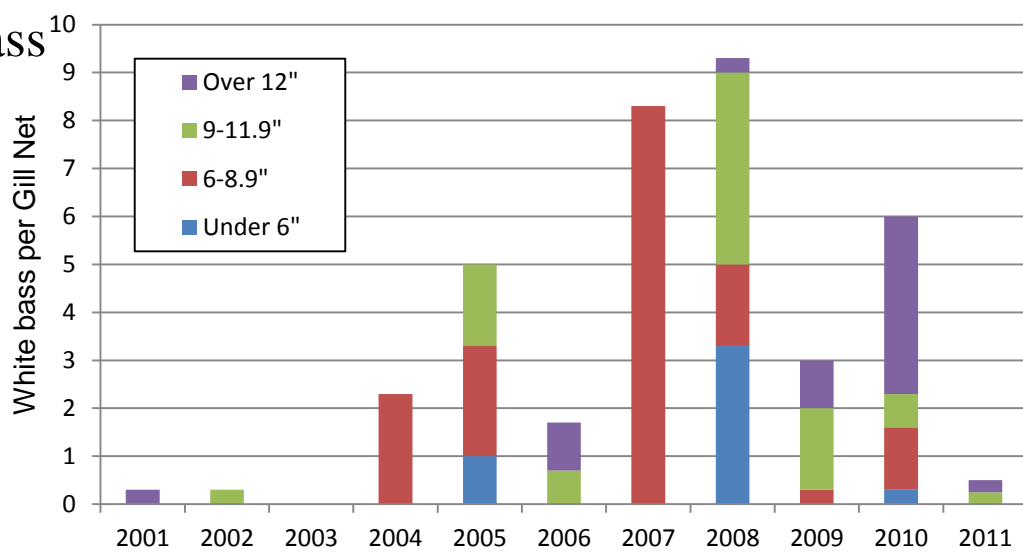
Walleye



The walleye population declined during the low water years due to poor habitat availability, reduced prey populations and angling mortality. The 2011 survey data does not indicate a quickly rebounding population. More time may be needed before walleye recruit into the population, the survey gear and the expanded habitat. Average length of collected walleye in 2011 was 17" with 70% over the 15" minimum length limit. The 15-19" length group comprised 50% of the 2011 sample and 20% were over 20". Walleye stocking is planned for 2012 and 133,000 fingerlings were requested.

Elwood's protected slot limit (18-24") for walleye has been in effect since 2003. The primary objective of this regulation is to protect walleye from age 4 through age 8, thereby increasing abundance of large walleye. The protected slot will continue to be evaluated and future regulation changes will be dependent on the response of the walleye population to improved water levels and the normal operation of the reservoir.

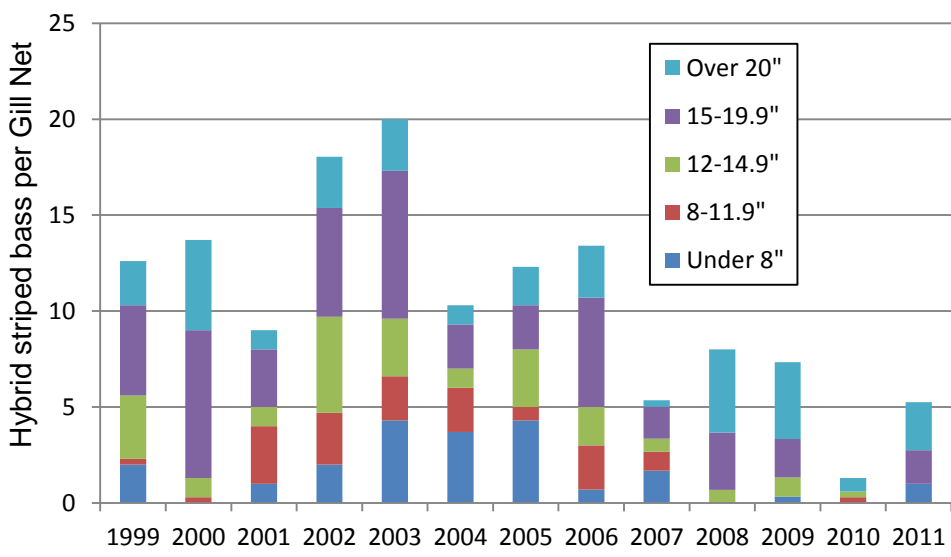
White bass



There has been a resurgence of white bass since 2005 but the 2011 survey data does not show it. White bass survey data is inconsistent from year to year in many reservoir surveys due to their schooling behavior. The white bass population is likely still rebounding and growing into its expanded habitat. Angling success in 2012 may depend on the unknown 2011 mortality rate. White bass (12"+) will be available for anglers in 2012.

The white bass regulation at Elwood includes a daily bag limit of 3 (in conjunction with hybrid striped bass) with only one greater than 18".

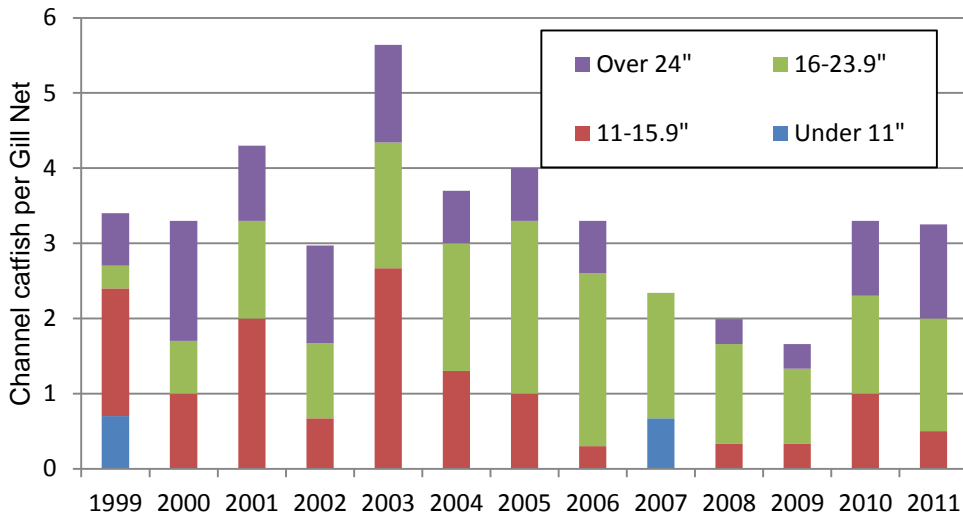
Hybrid striped bass



The declining hybrid striped bass population observed since 2003 can be attributed to poor water conditions from 2004 through 2009. The 2011 survey data may indicate a slight increase with approximately five hybrids captured per gill net with a mean length of 21". These fish represented three length groups and 4 age groups ranging from age 2-7. Improved water levels will contribute to and improved fishery. Although this population has declined, it will provide a good fishery in 2012. Hybrid stocking is planned for 2012 with 6,650 fingerlings requested.

The hybrid striped bass regulation at Elwood includes a daily bag limit of 3 (in conjunction with white bass) of 15 with only one greater than 18".

Channel catfish



Channel catfish survey data was similar to that observed in 2010. The current population appears to be the strongest observed since 2006. Improved water levels and supplemental stockings in 2007 and 2009 are likely contributing to this observation. Average length of channel catfish sampled in 2011 was 21" with the largest being 28". Chances remain very good to catch a trophy sized channel catfish.

The channel catfish regulation at Elwood includes a daily bag limit of five.

Muskellunge



Muskellunge were stocked during the spring of 1999, 2002 and 2004. These fish survived well and anglers reported good success during the 2000's. Stockings were suspended during the low water period but with the current water level and assuming operation remains normal, future management will involve maintenance stockings every other year.

For additional information about the fishery of Elwood Reservoir please contact
Brad Newcomb, District Mgr. 308-865-5310, brad.newcomb@nebraska.gov
Jared Lorensen, Biologist 308-535-8025, jared.lorensen@nebraska.gov

Anglers and boaters need to be aware of **zebra and quagga mussels** while using Nebraska Lakes. While no mussels have been identified at Elwood Reservoir, zebra mussels have been found at Zorinsky Lake in Omaha and are present in several reservoirs in Kansas and Colorado and pose a serious threat to our waterbodies. Monitoring was completed at several Nebraska reservoirs during 2011 and no evidence of mussels were found.

Invasive mussels will attach to almost any surface and have detrimental impacts on industry (power plants, water intakes, irrigation, etc), native fish and mussels, and recreational users (fouling boat motors, impacting beaches, etc). Invasive mussels cause an estimated \$5 billion per year in economic impacts in the United States for monitoring and control efforts. Inadvertent transfer by humans is the major source of new infestation for zebra and quagga mussels; primarily by boats, boat trailers, and fishing gear. Boaters and anglers are reminded that it is important to **Clean, Drain and Dry** their equipment and boats before moving to different bodies of water. Anglers and boaters are encouraged to educate themselves on these and other aquatic invasive species. Find more information concerning zebra and quagga mussels at <http://snr.unl.edu/invasives/> and <http://100thmeridian.org/zebras.asp>.

